

(19) World Intellectual Property  
Organization  
International Bureau



(43) International Publication Date  
14 October 2004 (14.10.2004)

PCT

(10) International Publication Number  
**WO 2004/087889 A1**

(51) International Patent Classification<sup>7</sup>: C12N 1/00,  
C12P 19/14, 7/06, C13K 1/06

(21) International Application Number:  
PCT/DK2004/000231

(22) International Filing Date: 2 April 2004 (02.04.2004)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:  
PA 2003 00517 4 April 2003 (04.04.2003) DK

(71) Applicant (for all designated States except US):  
NOVOZYMES A/S [DK/DK]; Krogshøjvej 36, DK-2880  
Bagsvaerd (DK).

(72) Inventors; and

(75) Inventors/Applicants (for US only): GUTIERREZ,  
Ramiro, Martinez, [ES/ES]; Avda. de la Vega 4, E-28100  
Alcobendas (ES). DESTEXHE, Alain [BE/BE]; Slang-  
beekstraat 46, B-3511 Kuringen (BE). OLSEN, Hans,  
Sejr, [DK/DK]; Højbjerg Vang 7, DK-2840 Holte (DK).  
MISCHLER, Marcel [CH/CH]; Waldeck 95, CH-4204  
Himmelried (CH).

(74) Common Representative: NOVOZYMES A/S; Patents,  
Krogshøjvej 36, DK-2880 Bagsvaerd (DK).

(81) Designated States (unless otherwise indicated, for every  
kind of national protection available): AE, AG, AL, AM,  
AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN,  
CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI,  
GB, GD, GE, GH, GM, GR, GU, HT, HU, ID, IL, IN, IS, JP, KE,  
KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD,  
MG, MK, MN, MW, MX, MY, NA, NI, NO, NZ, OM, PG,  
PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM,  
TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM,  
ZW.

(84) Designated States (unless otherwise indicated, for every  
kind of regional protection available): ARIPO (BW, GH,  
GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW),  
Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), Euro-  
pean (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR,  
GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK,  
TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW,  
ML, MR, NE, SN, TD, TG).

**Published:**

- with international search report
- before the expiration of the time limit for amending the  
claims and to be republished in the event of receipt of  
amendments

For two-letter codes and other abbreviations, refer to the "Guid-  
ance Notes on Codes and Abbreviations" appearing at the begin-  
ning of each regular issue of the PCT Gazette.

(54) Title: MASH VISCOSITY REDUCTION

(57) Abstract: The invention relates to a process for producing a fermentation product wherein the viscosity of the mash is reduced  
by application of beta-glucanase and xylanase activity.

BEST AVAILABLE COPY